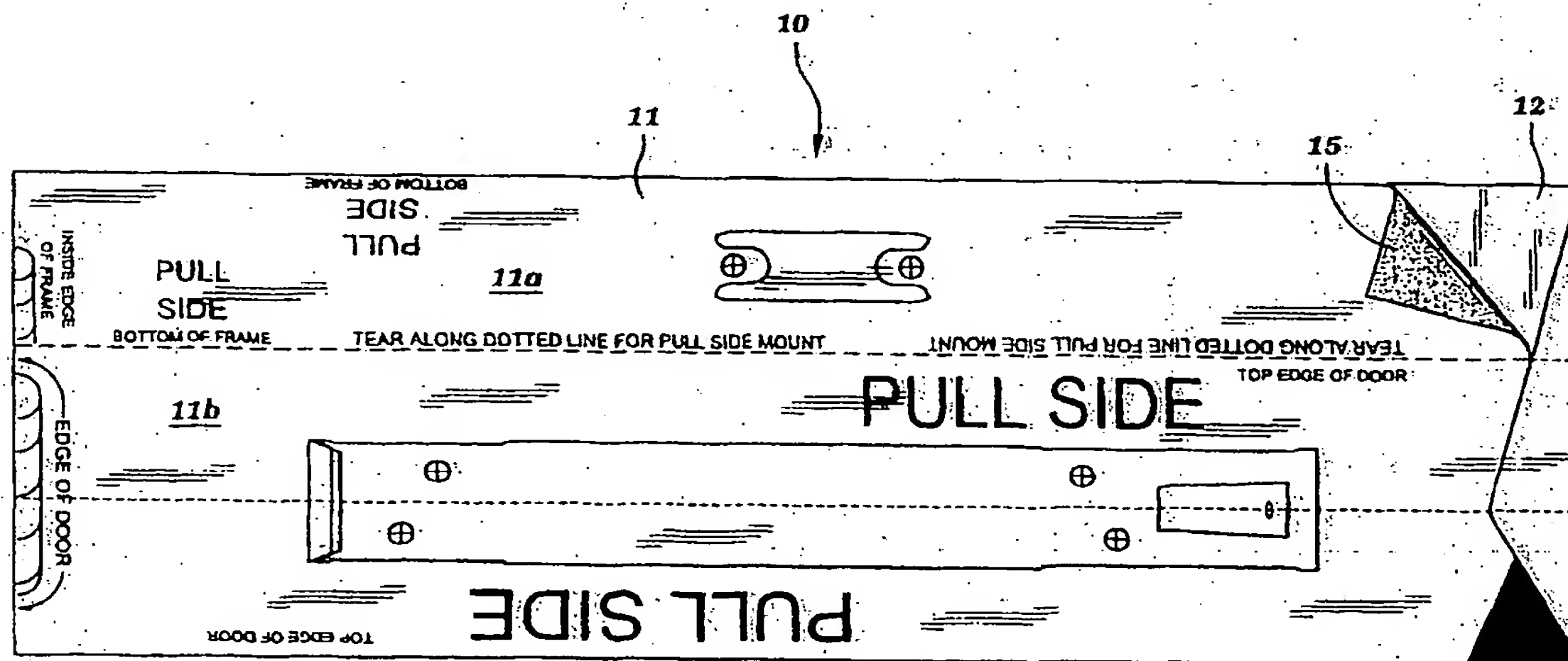




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : E05F 3/00	A1	(11) International Publication Number: WO 00/47854
		(43) International Publication Date: 17 August 2000 (17.08.00)
(21) International Application Number: PCT/IB00/00126		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
(22) International Filing Date: 7 February 2000 (07.02.00)		Published: <i>With international search report.</i>
(30) Priority Data: 09/247,129 9 February 1999 (09.02.99) US		
(71) Applicant: SCHLAGE LOCK COMPANY [US/US]; 2401 Bayshore Boulevard, San Francisco, CA 94134 (US).		
(72) Inventors: MYERS, Christopher, Roger; 1123 West Central, Princeton, IL 61356 (US). LUCAS, Craig, Lawrence; RR#5 Box 130, Princeton, IL 61356 (US). TRUMPINSKI, Thomas, Ned; Box 221, Sublette, IL 61367 (US). JENSEN, James, E.; 304 N. Euclid Avenue, Princeton, IL 61356 (US). BARTH, Charles, T.; 1028 S. Euclid Avenue, Princeton, IL 61356-2528 (US).		
(74) Agents: MINNS, Michael, H. et al.; Ingersoll-Rand Company, 942 Memorial Parkway, Phillipsburg, NJ 08865 (US).		

(54) Title: INSTALLATION TEMPLATE FOR A DOOR CLOSER



(57) Abstract

An installation template for installing a door closer. The installation consists of an under sheet coated with a release agent and two installation templates, a pull side template and a push side template, both coated with a self-stick adhesive, attached to the under sheet. The pull side template and the push side template include two sets of written instructions, each set being upside down to the other set, which permits each template to be used for both right hand and left hand installations. The use of both pull side and push side templates on the single under sheet along with the two sets of written instructions, allows a single template to be used for both push-side installation and pull side installation of both right hand and left hand doors.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PC

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KP	Democratic People's Republic of Korea	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KR	Republic of Korea	PL	Poland		
CM	Cameroon	KZ	Kazakhstan	PT	Portugal		
CN	China	LC	Saint Lucia	RO	Romania		
CU	Cuba	LI	Liechtenstein	RU	Russian Federation		
CZ	Czech Republic	LK	Sri Lanka	SD	Sudan		
DE	Germany	LR	Liberia	SE	Sweden		
DK	Denmark			SG	Singapore		
EE	Estonia						

INSTALLATION TEMPLATE FOR A DOOR CLOSER

BACKGROUND OF THE INVENTION

5 This invention relates generally to installation of door closers and more particularly to an installation template for installing a door closer.

State of the art installation instruction sheets for door
10 closers provide the installer with a diagram of the installation and the required installation dimensions. To install the closer the installer requires a tape measure and a tool to mark the measurements. In a few cases, the manufacturer will provide a template that the installer can attach to the door to locate the
15 door closer and arm attachment. The installer must have tape or other means to attach the template to the door and frame. In all cases known to the inventors hereof, this template is handed, i.e., one template is provided for right hand doors and a second separate template is provided for left hand doors.

20 The foregoing illustrates limitations known to exist in present door closer installation templates. Thus, it is apparent that it would be advantageous to provide an alternative directed to overcoming one or more of the limitations set forth
25 above. Accordingly, a suitable alternative is provided including features more fully disclosed hereinafter.

SUMMARY OF THE INVENTION

30 In one aspect of the present invention, this is accomplished by providing an installation template for use with a door mounted within a door frame and a door closer having a mounting bracket and a rod and shoe bracket, the template comprising: a sheet having a release agent on both sides thereof; a
35 pull side template having a self-stick adhesive on one side

5 thereof, the pull side template self-stick adhesive side being attached to a first side of the sheet; and a push side template having a self-stick adhesive on one side thereof, the push side template self-stick adhesive side being attached to a second side of the sheet.

10

The foregoing and other aspects will become apparent from the following detailed description of the invention when considered in conjunction with the accompanying drawing figures.

15

BRIEF DESCRIPTION OF THE DRAWING FIGURES

FIG. 1 is a front view of the pull side of the installation template of the present invention;

20

FIG. 2 is a front view of the push side of the installation template of the present invention;

25

FIG. 3 is a front view of the pull side of the installation template shown in FIG. 1, illustrating the peel away attachment of the template sheets to the underlying paper;

30

FIGS. 4A and 4B are perspective views of a pull side or door mounted door closer illustrating both left hand and right hand doors;

35

FIG. 5 is a front view of the pull side of the installation template illustrating the separation of the pull side of the installation template into the door frame section and the door section;

FIGS. 6A and 6B are front views of the pull side of the installation template illustrating the attachment of the template sections to the door and door frame showing both left hand and right hand doors; and

5 FIGS. 7A and 7B are perspective views illustrating the attachment of the door closer mounting bracket and the rod and shoe bracket for pull side mounting showing both left hand and right hand doors;

10 FIGS. 8A and 8B are perspective views illustrating the attachment of the door closer to the mounting bracket showing both left hand and right hand doors;

 FIGS. 9A and 9B are perspective views of a push side or
15 jamb mounted door closer showing both left hand and right hand doors;

 FIGS. 10A and 10B are front views of the push side of the installation template illustrating the attachment of the template sections to the door and door frame showing both left hand
20 and right hand doors;

 FIGS. 11A and 11B are perspective views illustrating the attachment of the door closer mounting bracket and the rod and
25 shoe bracket for push side mounting showing both left hand and right hand doors;

 FIG. 12 is a plan view of an instruction sheet for use with the pull side template shown in FIG. 1; and

30

 FIG. 13 is a plan view of an instruction sheet for use with the push side template shown in FIG. 2.

DETAILED DESCRIPTION

35

 FIGS. 1 through 3 show an installation template 10 for installing a door closer 62 and rod and shoe bracket 63 on a door 60 and door frame 61. The installation template 10 is formed from three sheets, an under sheet 12 coated with a re-

5 lease agent, a pull side template 11 having a self-stick adhesive 15 on the reverse side (as shown in FIG. 3) attached to one side of the under sheet 12 and a push side template 13 also having a self-stick adhesive on the reverse (similar to that shown in FIG. 3) attached to the other side of the under sheet 12.
10 Both templates 11, 13 are divided into two sections, a door frame section 11a, 13a and a door section 11b, 13b, separable into the two by a tearable perforations 30. Preferably, two tearable perforations 30, offset from one another as shown in the FIGURES, are used to separate the template 10 into the two
15 sections. As an alternative, the graphics on the pull side template 11 and the push side template 13 can be positioned such that only one perforation 30 is needed.

The two templates 11, 13 include graphics 24a, 24b representing
20 a portion of a hinge to assist with proper installation and alignment of the templates 11, 13 on the door 60 and door frame 61 and includes graphics 32a, 32b showing the positioning of the door closer mounting bracket 62a and the rod and shoe bracket 63. Each template 11, 13 include sets of written instructions
25 40 identifying the template side as "PULL SIDE" or "PUSH SIDE" and indicating where the edge of the door frame section, "BOTTOM OF FRAME" or the edge of the door section, "TOP EDGE OF DOOR" is to be positioned. The written instructions 40 are in sets that are upside down relative to each other. This allows one tem-
30 plate 11, 13 to be used for both right hand doors and left hand doors. When the template sections 11a, 11b, 13a, 13b are aligned with the hinge side 65 of the door 60 and door frame 61, one set of the written instructions 40 will be right side relative to the installer.

35

The templates 11, 13 further include cutout sections 21, 22. These cutout sections 21, 22, outlined by lines 25, 23, are fully cut out from the rest of the template 11, 13.

5 To install a door closer 62 using the installation template 10, the installer determines whether the door closer 62 is being installed as a pull side installation, where the door closer 62 is mounted on the side the door is pulled towards, or a push side installation, where the door closer 62 is mounted on the side the door 60 is pushed away from. In a pull side installation, the door closer 62 is mounted on the door 60 and the rod and shoe bracket 63 is mounted on the door frame 61. In a push side installation, the door closer 62 is mounted on the door frame 61 and the rod and shoe bracket 63 is mounted on the door 15 60. FIGS. 4A and 4B illustrate a pull side installation for both right hand and left hand doors. FIGS. 9A and 9B illustrate a push side installation for both right hand and left hand doors. (Pull side installations are shown in FIGS. 4A through 8B and push side installations are shown in FIGS. 9A through 20 11B.)

Once the type of installation is determined, the installer selects the appropriate side of the template 10, the pull side template 11 for pull side installations shown in FIGS. 4A and 25 4B, the push side template 13 for push side installation shown in FIGS. 9A and 9B. The appropriate template 11, 13 is then separated into the door frame section 11a, 13a and the door section 11b, 13b, shown in FIG. 5 for the pull side template 11, along perforation 30. After separation, the template sections 30 11a, 11b or 13a, 13b are separated from the under sheet 12, exposing the self-stick adhesive side of the template sections. The template sections 11a, 11b or 13a, 13b are then oriented with the hinge graphics 24a, 24b towards the hinge side 65 of the door 60. As shown in FIGS. 6A and 6B for pull side installations and FIGS. 10A and 10B for push side installations, the 35 template sections 11a, 11b or 13a, 13b must be inverted for one of the door handings. Since the written instructions 40 are printed in two sets, one set of the written instructions 40 is always right side up for the installer to read. The template

5 sections 11a, 11b or 13a, 13b are attached to the door 60 and door frame 61 using the self-stick adhesive side of the sections. After the template sections are attached to the door 60 and door frame 61, screw holes can be drilled, if necessary. Preferably, self-tapping screws are used, so that drilling screw
10 holes is not needed. The door closer mounting bracket 62a is attached to the door or door frame, using the mounting bracket graphic 32b and the rod and shoe bracket 63 is attached to the door or door frame, as shown in FIGS. 7A, 7B, 11A and 11B, using the rod and shoe bracket graphic 32a for visual guidance. After
15 the brackets are attached, the template sections 11a, 11b or 13a, 13b can be removed from the door and door frame. The cut-out sections 21, 22 allowing the rest of the template sections 11a, 11b or 13a, 13b to cleanly separate from the cutout sections 21, 22. These cutout sections 21, 22 permit the template
20 sections 11a, 11b or 13a, 13b to remain on the door after the brackets are installed. This is different than typical prior art installation templates where the template is taped to the door and door frame and is used as a drilling guide for the screw holes and then removed prior to the brackets being
25 installed.

In the preferred embodiment, shown in the FIGURES, a door closer 62 with a separate mounting bracket 62a is used. The installation of the door closer 62 on the mounting bracket 62a
30 is shown in FIGS. 8A and 8B. After the door closer 62 and the rod and shoe bracket 63 are attached to the door 60 and door frame 61, the door closer arm 65 is connected between the door closer and the rod and shoe bracket. If desired, this installation template 10 could be used for a door closer which mounts
35 directly to the door or door frame.

Having described the invention, what is claimed is:

1 1. An installation template for use with a door mounted within
2 a door frame and a door closer having a mounting bracket and a
3 rod and shoe bracket, the template comprising:
4 a sheet having a release agent on both sides thereof;
5 a pull side template having a self-stick adhesive on one
6 side thereof, the pull side template self-stick adhesive side
7 being attached to a first side of the sheet; and
8 a push side template having a self-stick adhesive on one
9 side thereof, the push side template self-stick adhesive side
10 being attached to a second side of the sheet.

2. The installation template according to claim 1, wherein the
pull side template, the push side template and the sheet have at
least one perforation extending therealong for permitting the
pull side template, the push side template and the sheet to be
separated into a door frame section and a door section, the door
frame section including indicia for proper alignment of the door
frame section on a door frame and for proper alignment of one of
a mounting bracket or a rod and shoe bracket, the door section
including indicia for proper alignment of the door section on a
door and for proper alignment of the other of a mounting bracket
or a rod and shoe bracket.

3. The installation template according to claim 2, wherein the
number of perforations is one and the push side template door
frame section and the pull side door frame section are coinci-
dent with one another.

4. The installation template according to claim 2, wherein the
number of perforations is two and the push side template door
frame section and the pull side door frame section are not coin-
cident with one another.

5. The installation template according to anyone of claims 2 through 4, wherein each of the door section and the door frame section both include a first set of written indicia for a right hand installation and a second set of written indicia for a left hand installation.
6. The installation template according to claim 5, wherein the first set of written indicia is oriented 180 degrees to the second set of written indicia.
7. The installation template according to anyone of the preceding claims, wherein the pull side template and the push side template have a plurality of cutout portions, the cutout portions shapes and sizes corresponding to a mounting bracket and a rod and shoe bracket shapes and sizes.
8. The installation template according to claim 1, wherein the indicia for proper alignment of the door section on a door and the indicia for proper alignment of the door frame section on a door frame include a pictorial representation of at least a portion of a hinge.
9. A method for installing a door closer using the template of claim 1 comprising:
 - determining whether the door closer is to be pull side door mounted or push side jamb mounted;
 - selecting the pull side template or the push side template as appropriate based upon the prior step;
 - separating the selected template into the door section and the door frame section;
 - removing the door section from the sheet;
 - aligning the door section with a hinge edge of the door;
 - attaching the door section to the door;
 - aligning the door frame section with a hinge edge of the door;

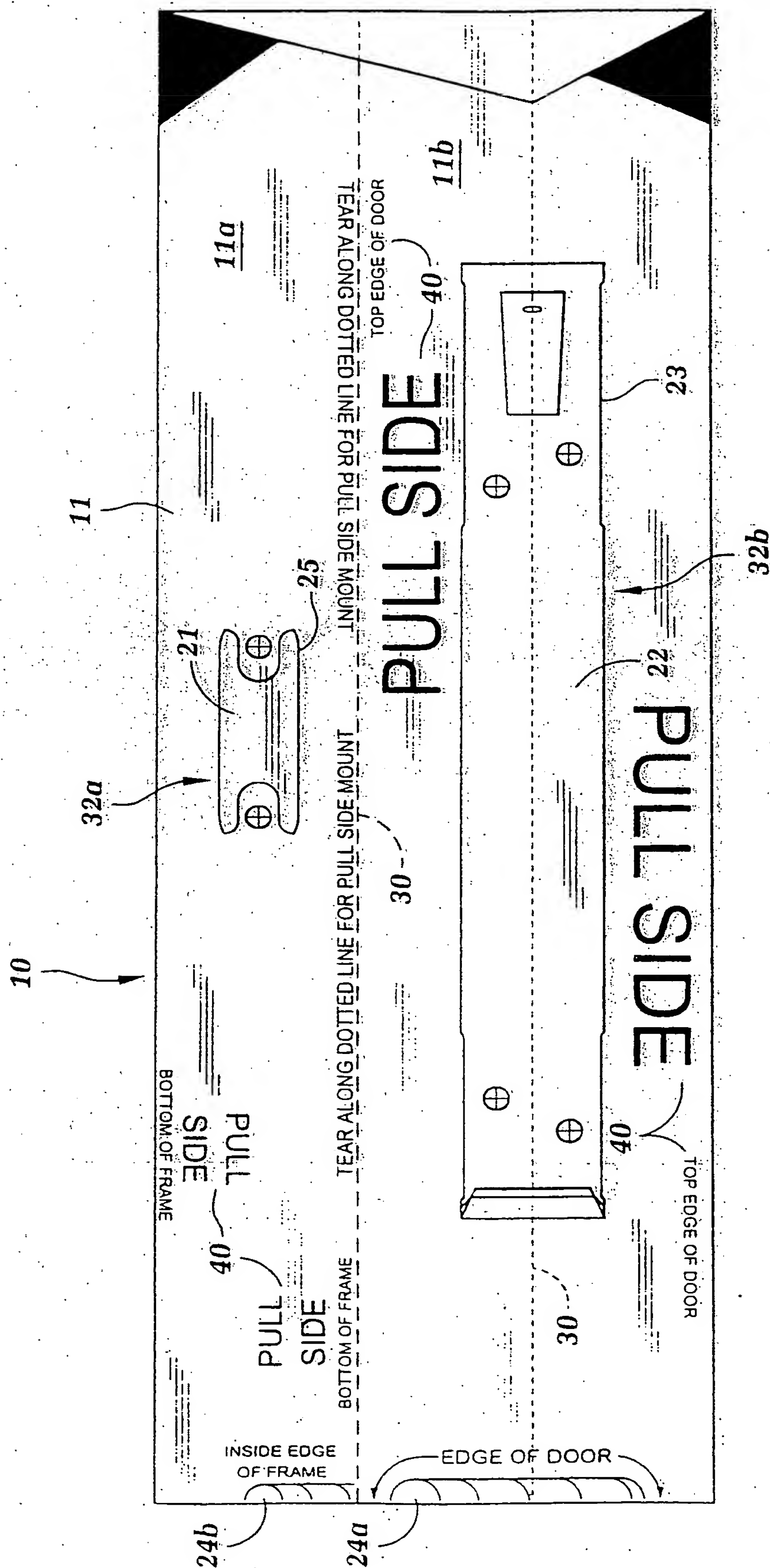
attaching the door frame section to the door frame;

attaching the rod and shoe bracket to the rod and shoe indicia on one of the door section or the door frame section;

attaching the door closer to the door closer indicia on the other of the door section or the door frame section;

peeling the door frame section and the door section off the door and door frame, leaving the cutout portions on the door and door frame.

10. The method according to claim 9, wherein the door closer further includes a mounting bracket; and the step of attaching the door closer to the door closer indicia includes attaching the mounting bracket to the door closer indicia and then attaching the door closer to the mounting bracket.



1
b6
b7C

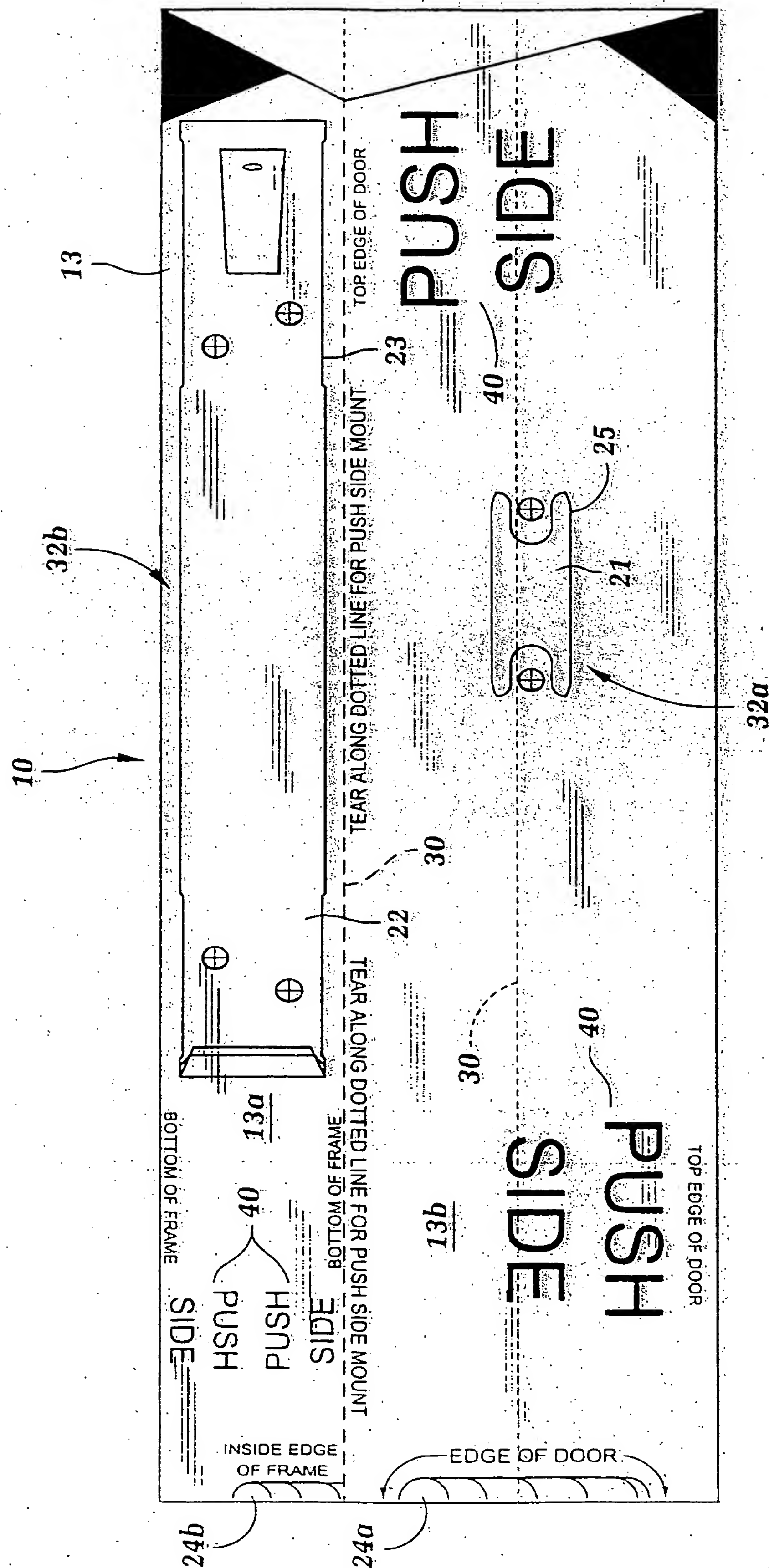


Fig. 2

3/17

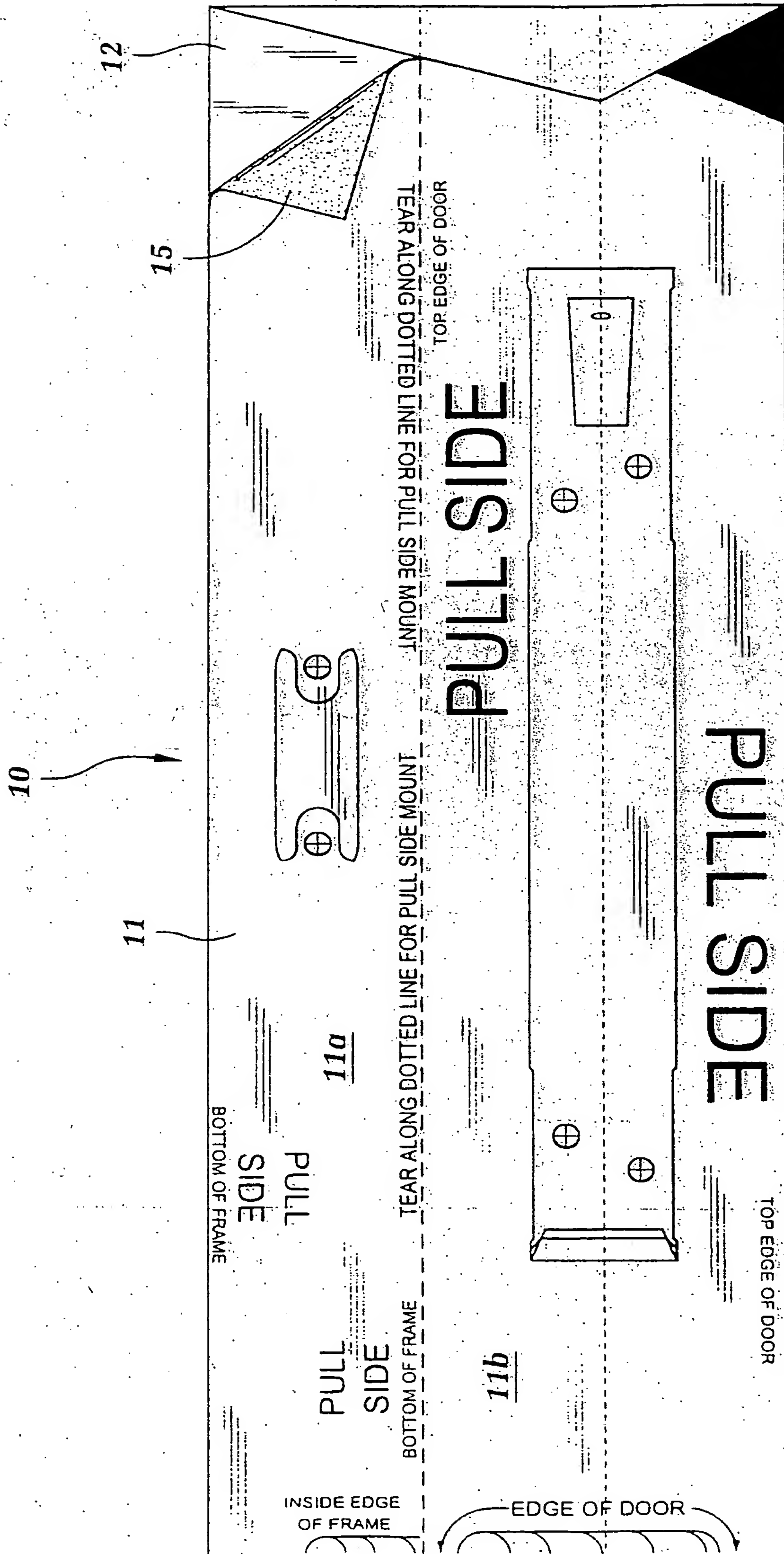


Fig. 3

4/17

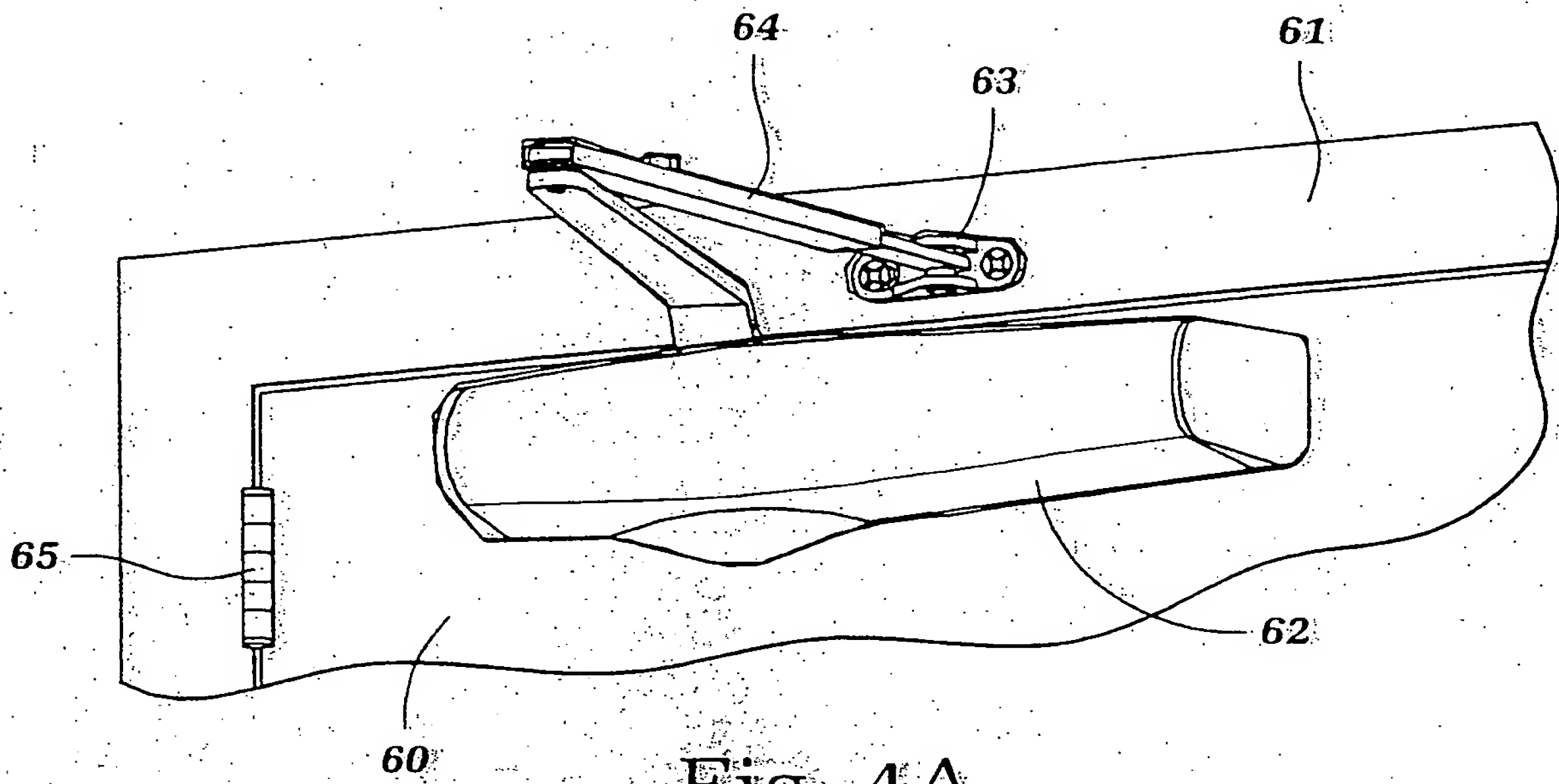


Fig. 4A

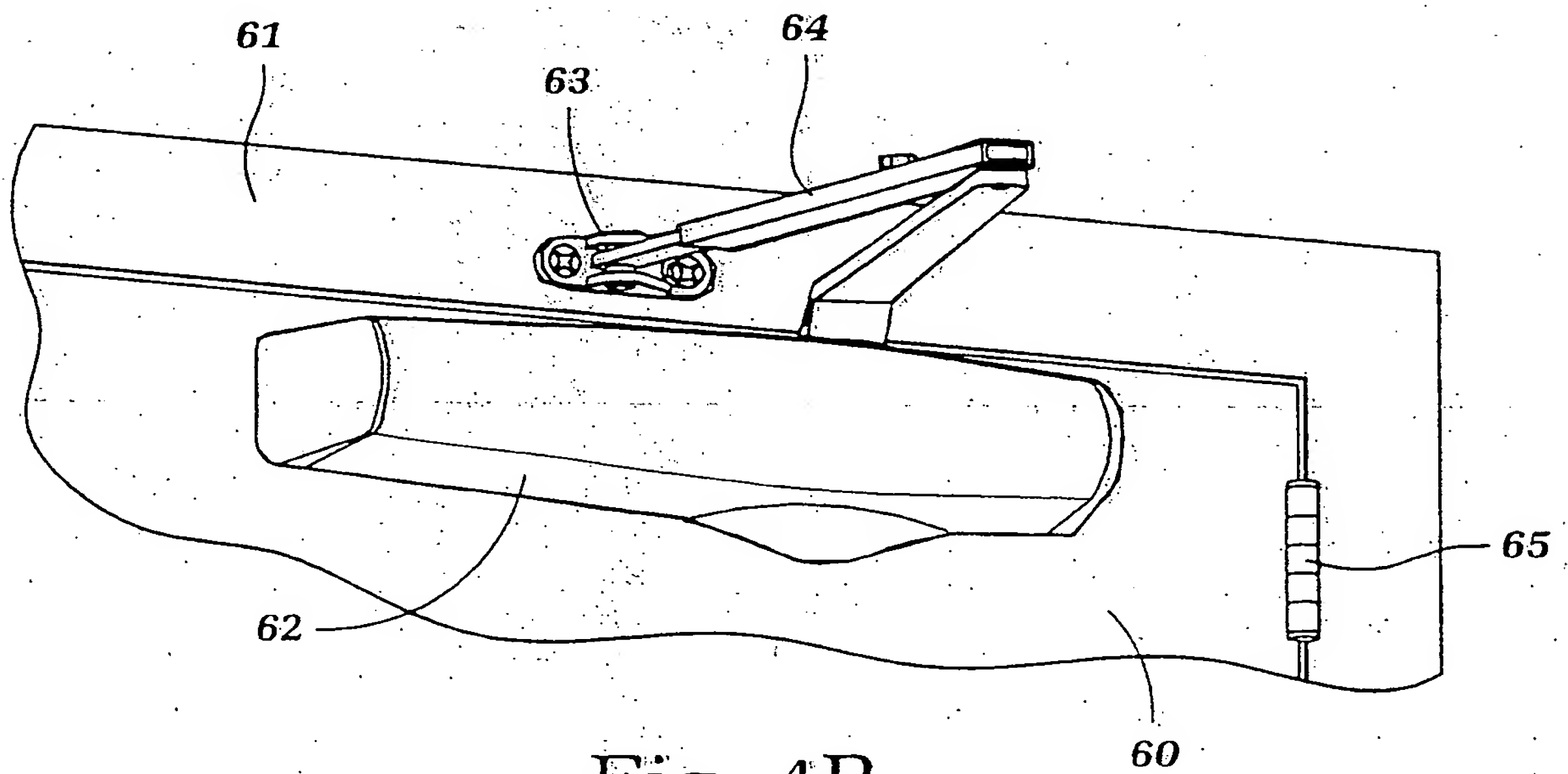
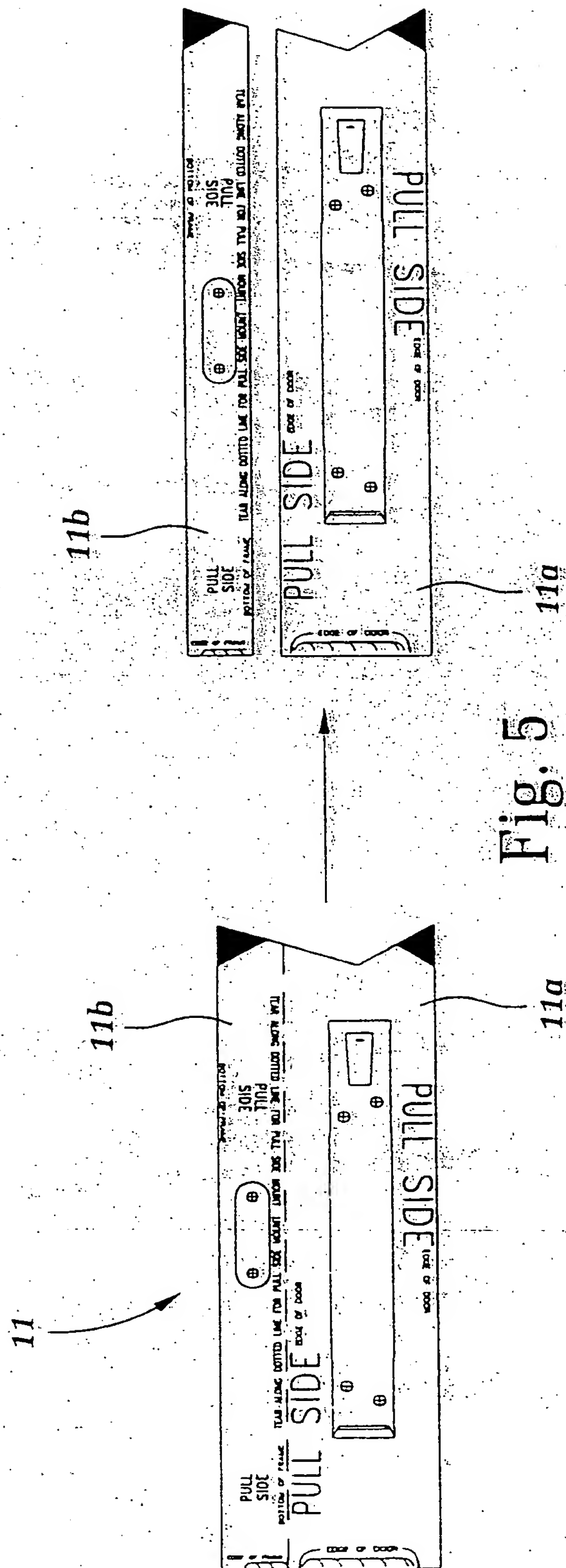


Fig. 4B



6/17

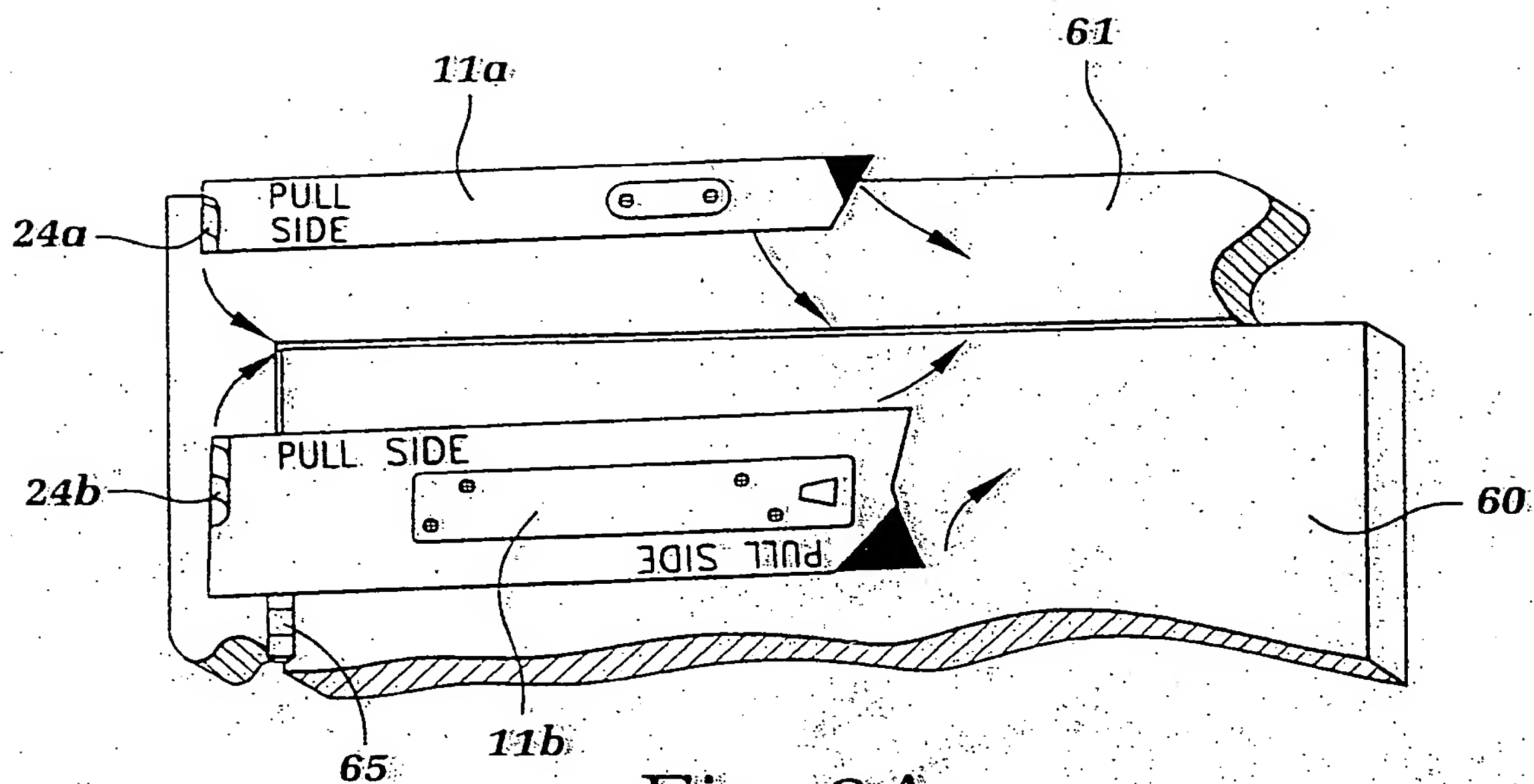


Fig. 6A

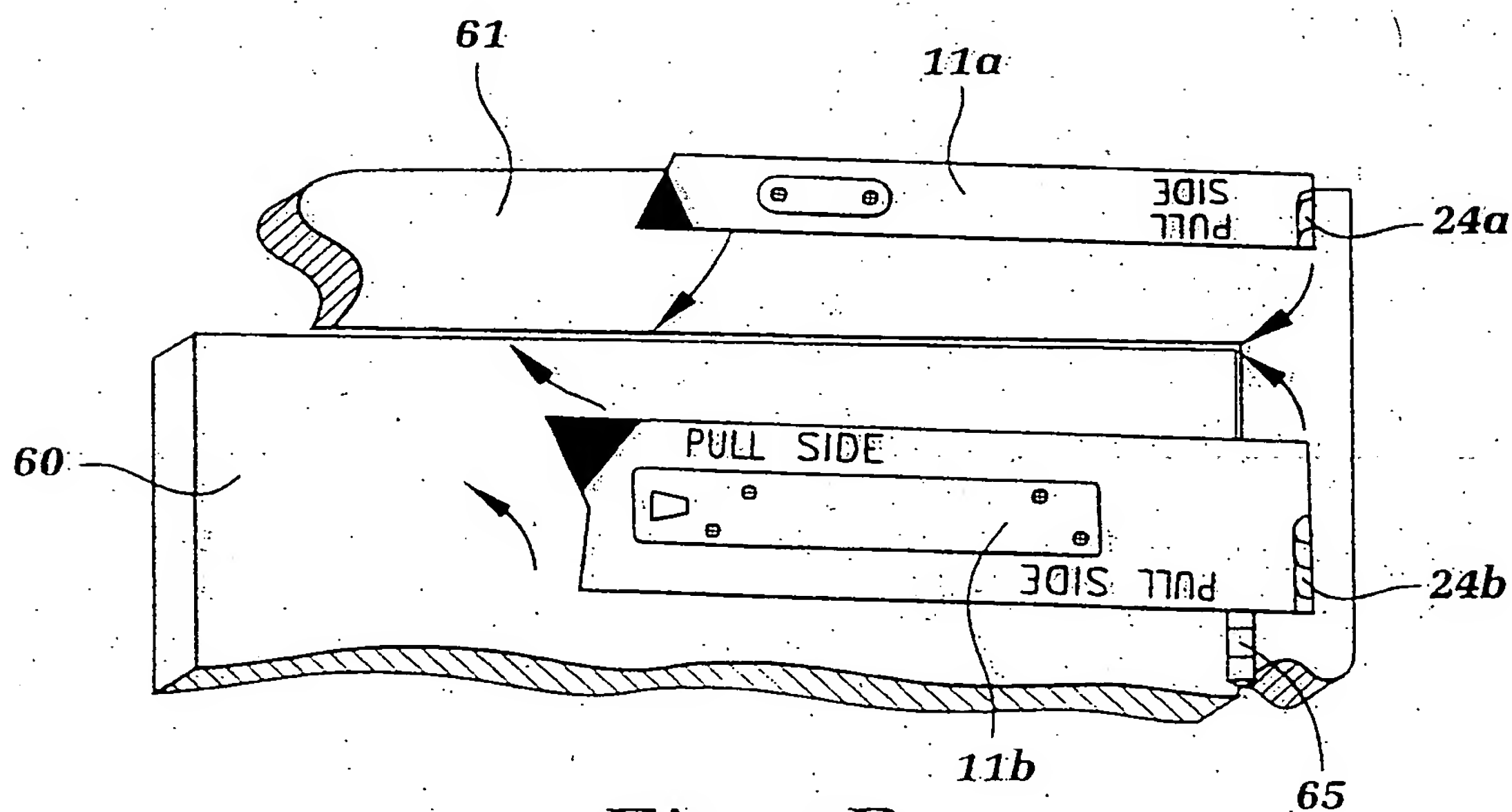


Fig. 6B

7/17

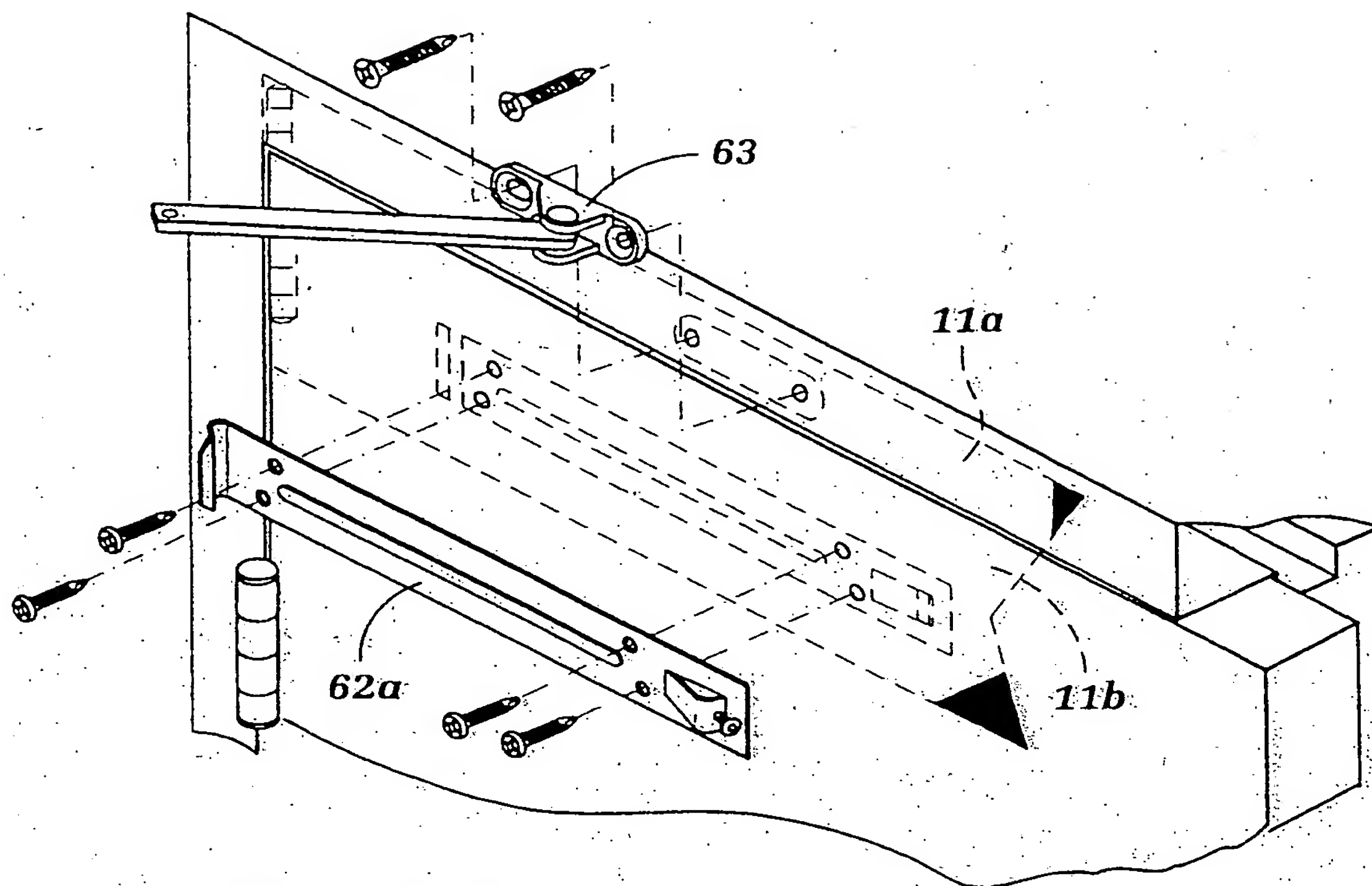


Fig. 7A

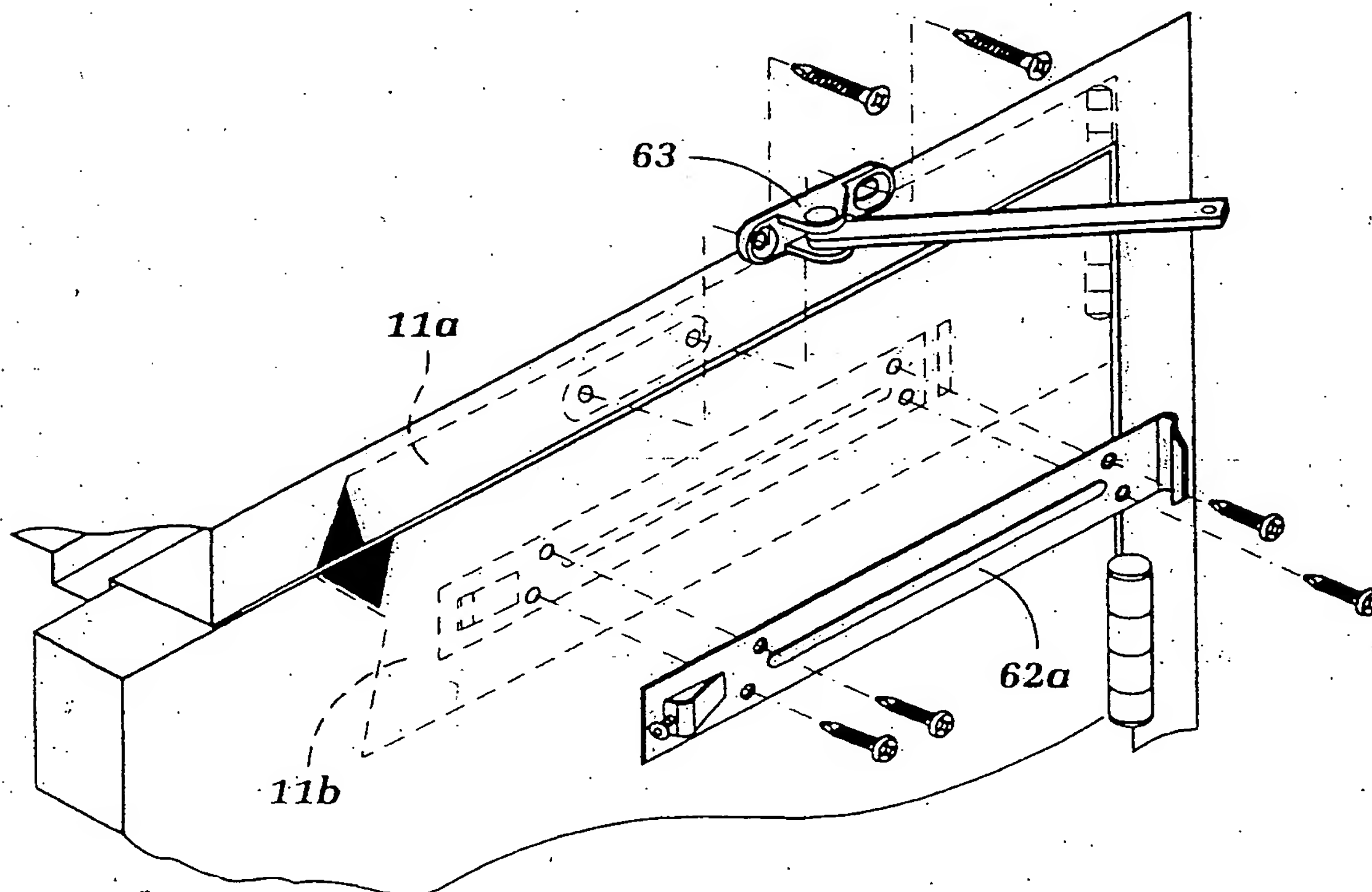


Fig. 7B

8/17

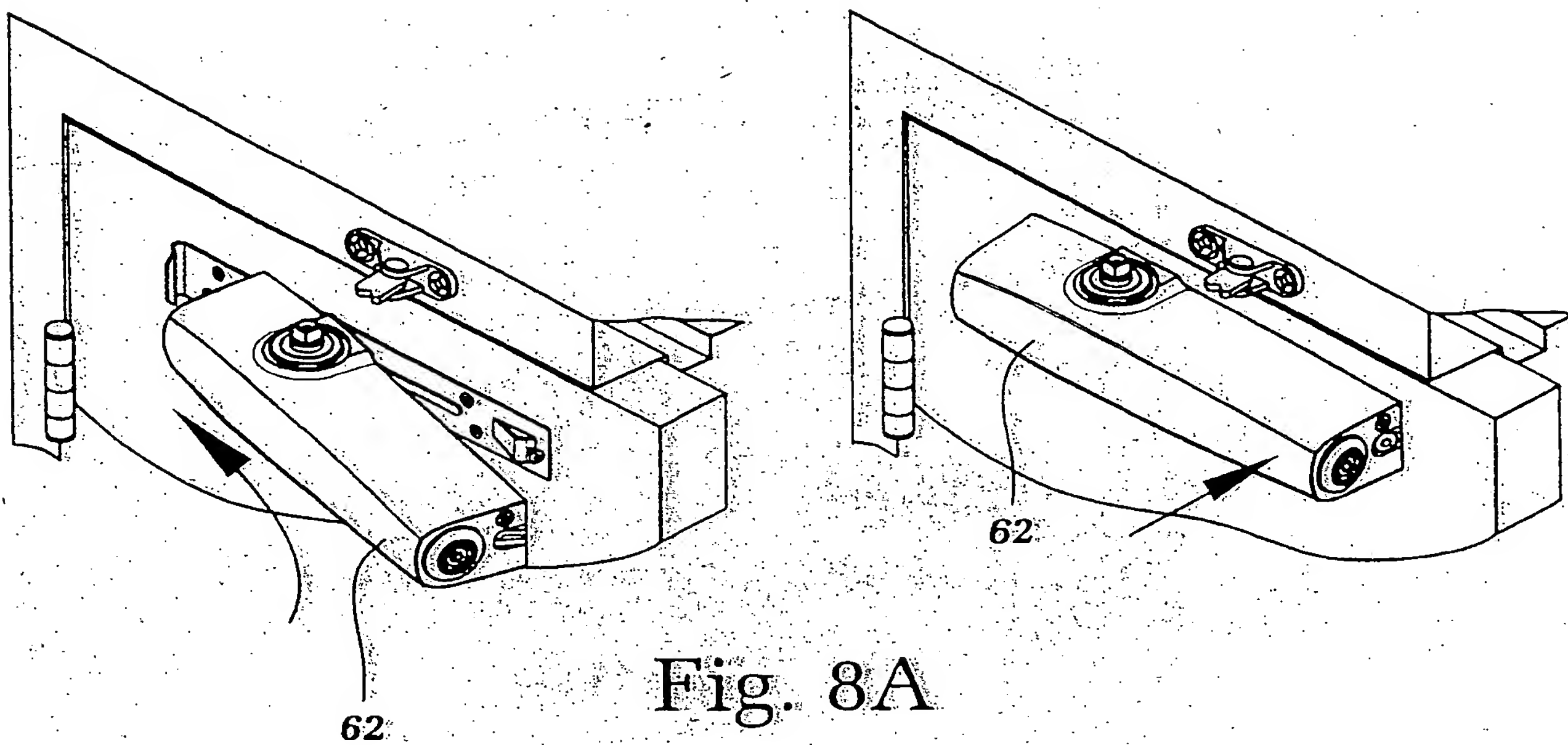


Fig. 8A

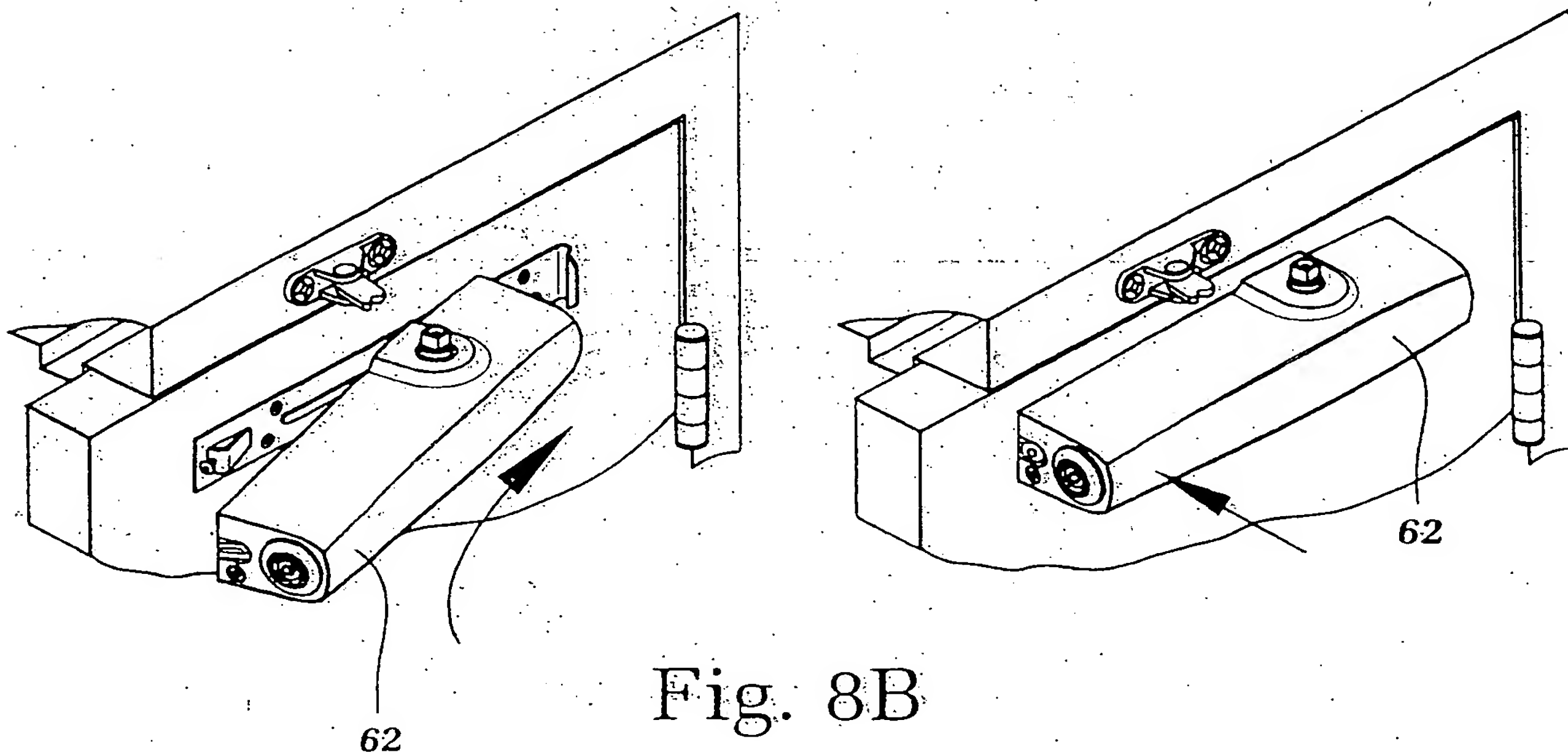


Fig. 8B

9/17

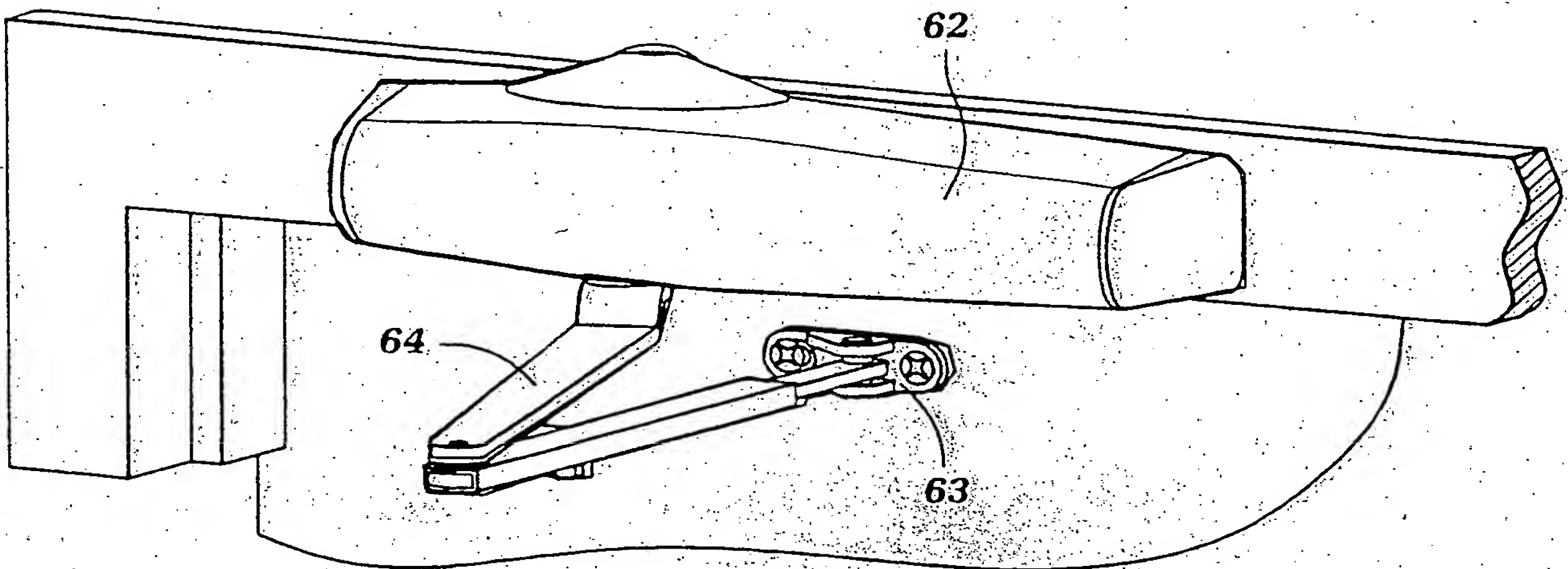


Fig. 9A

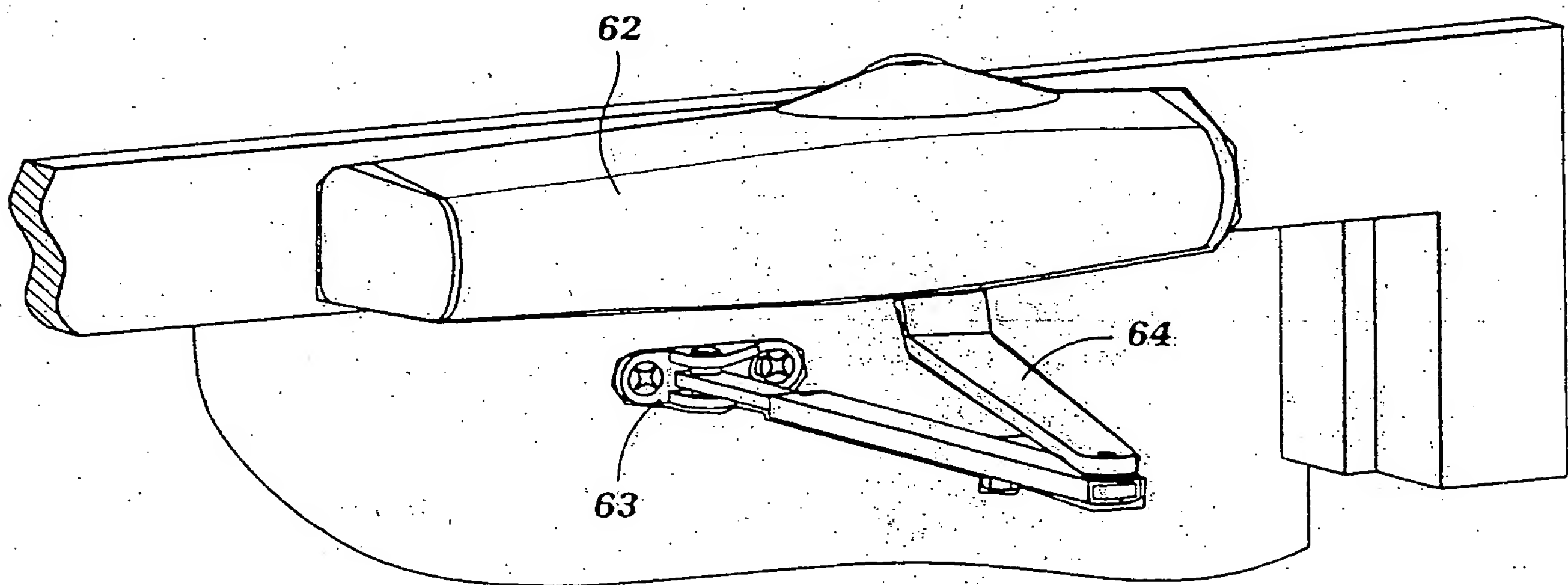
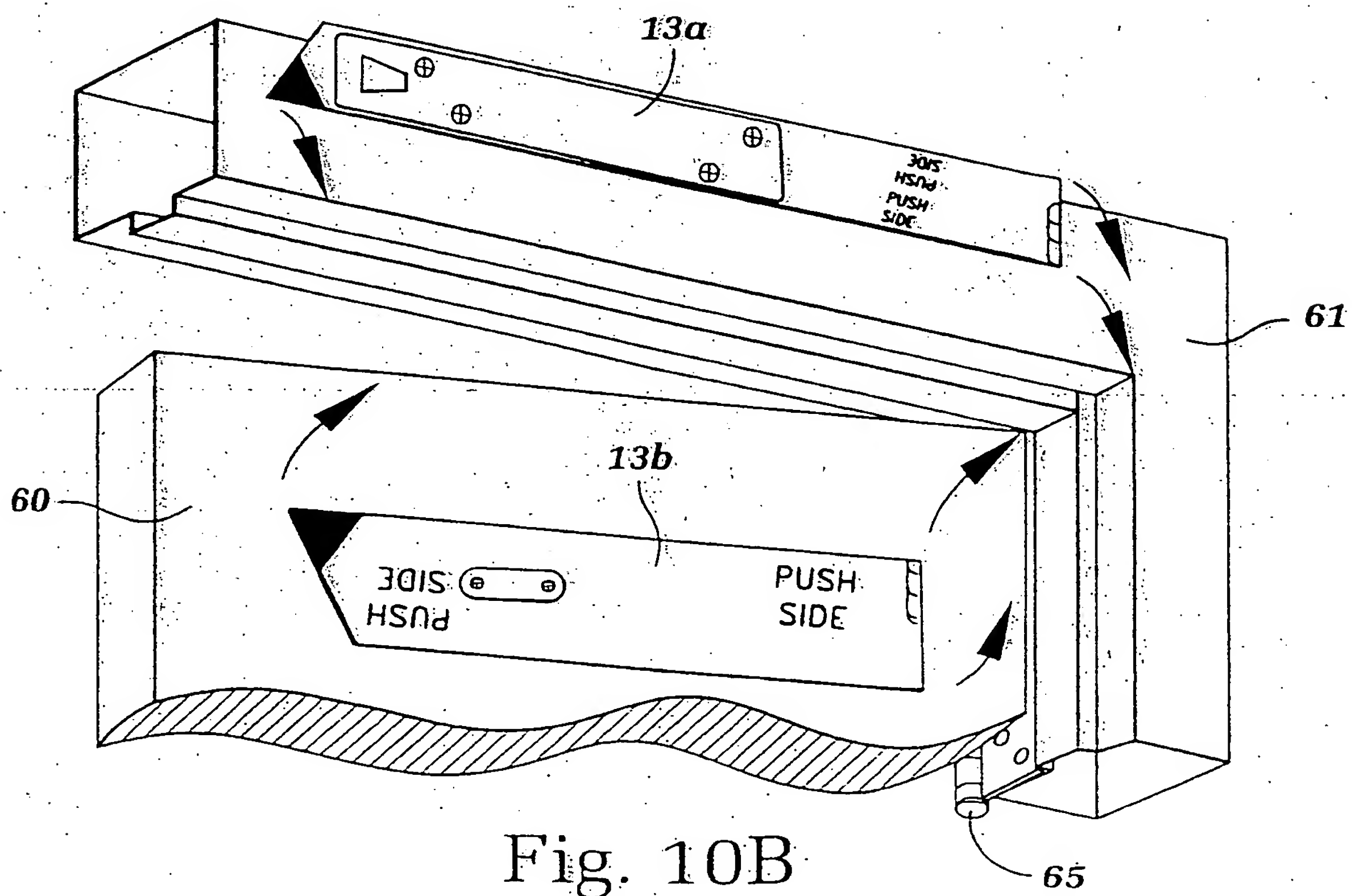
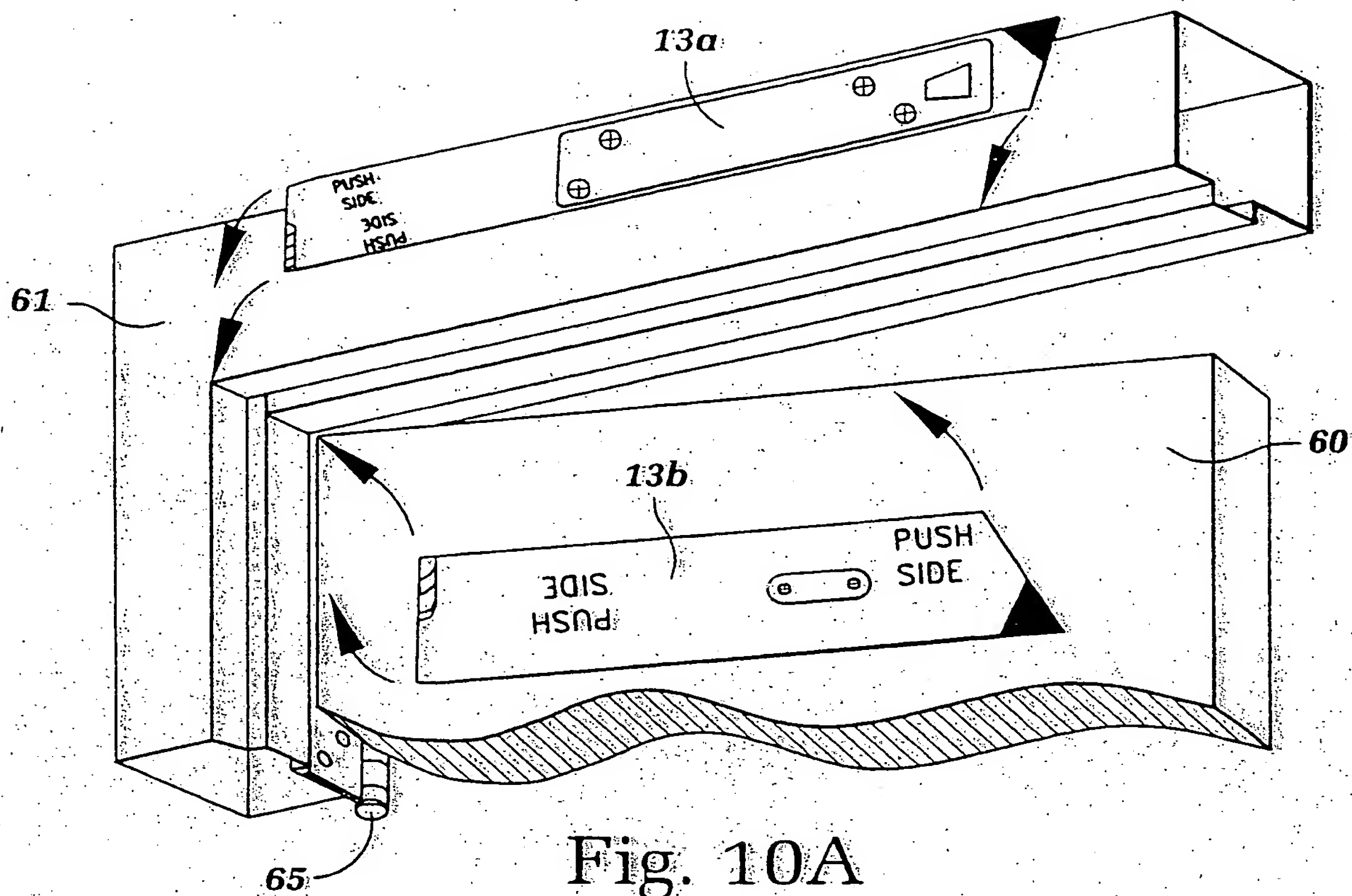


Fig. 9B

10/17



11/17

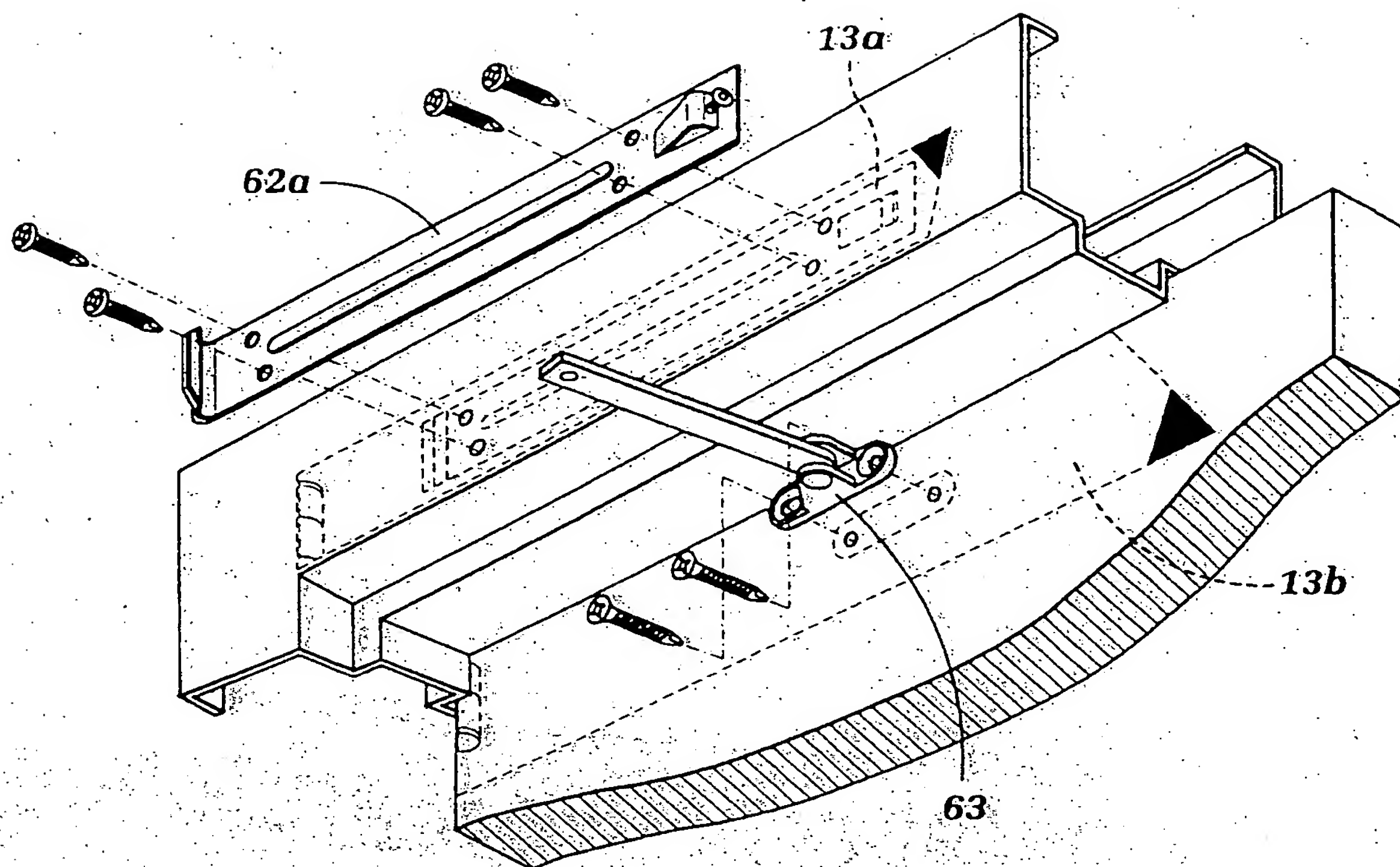


Fig. 11A

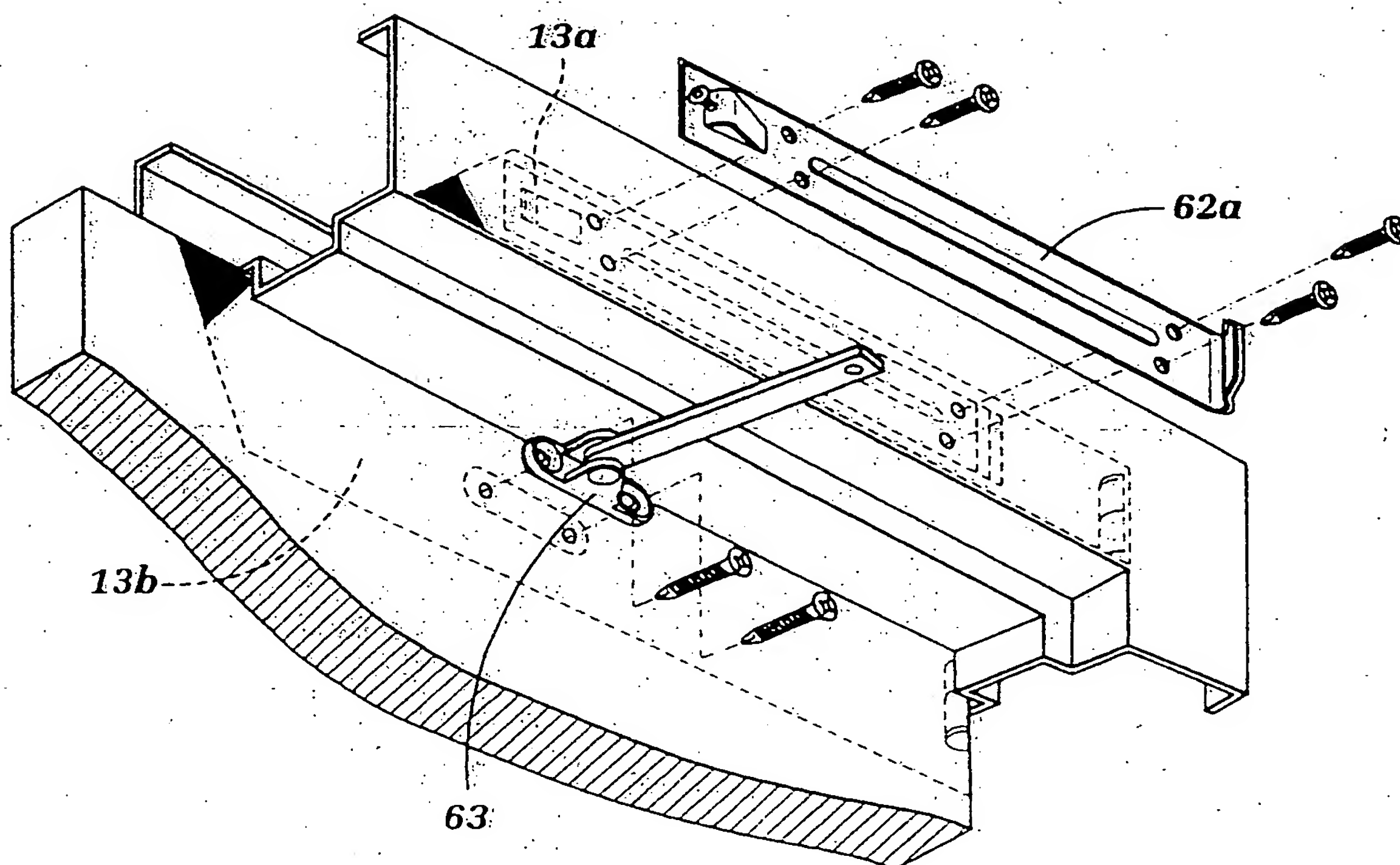


Fig. 11B

Fig. 12

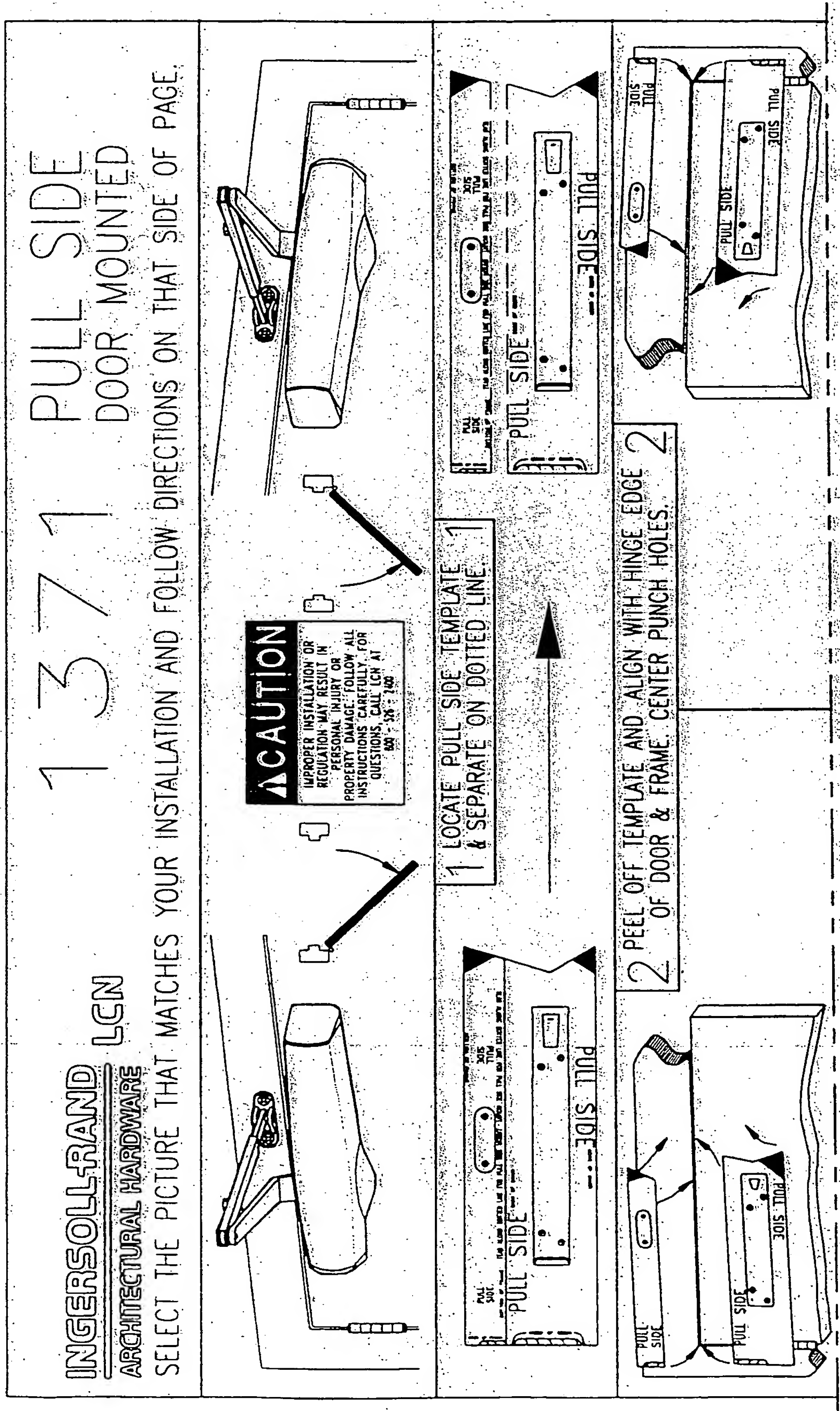


Fig. 12 Continued

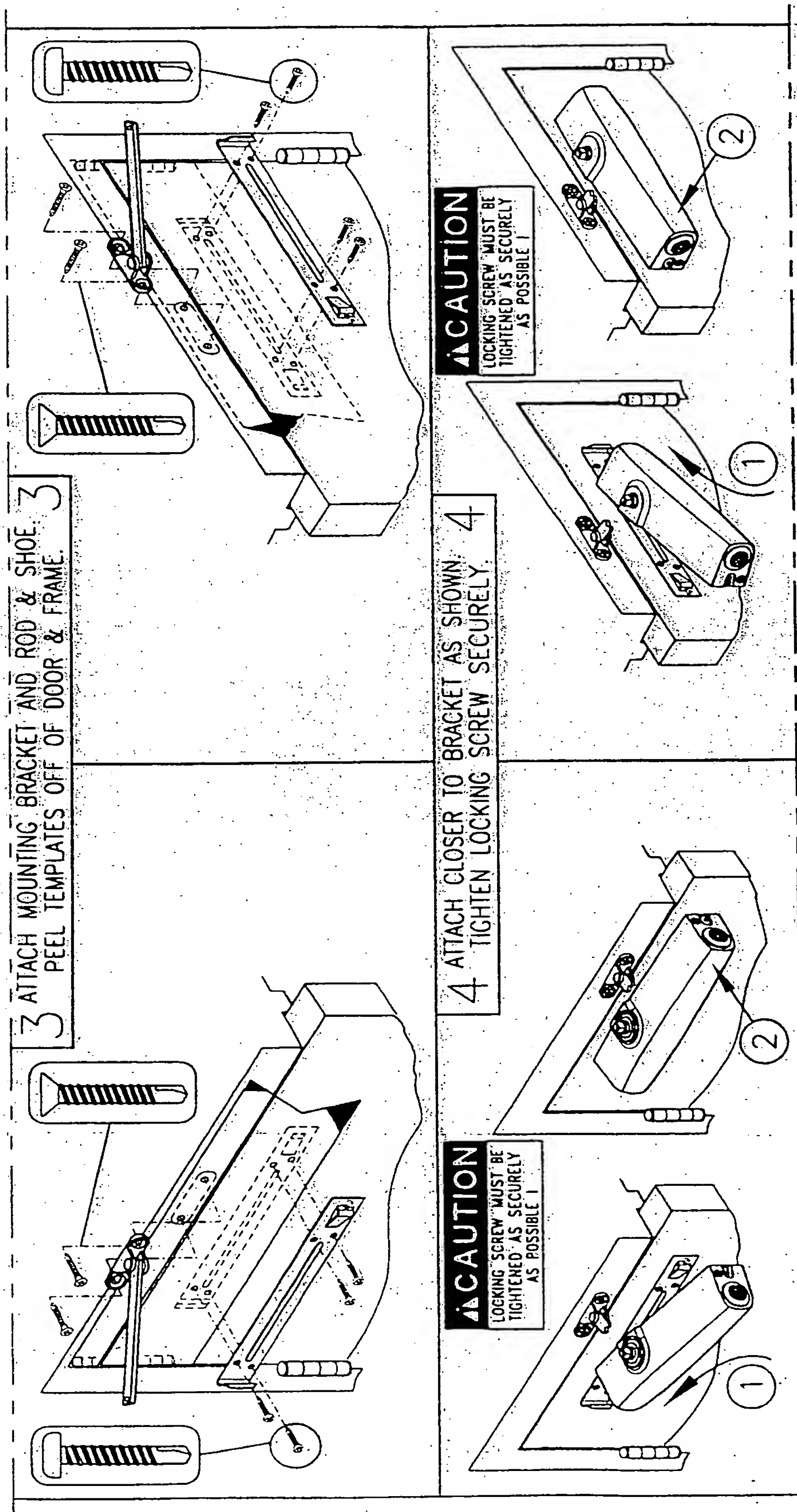
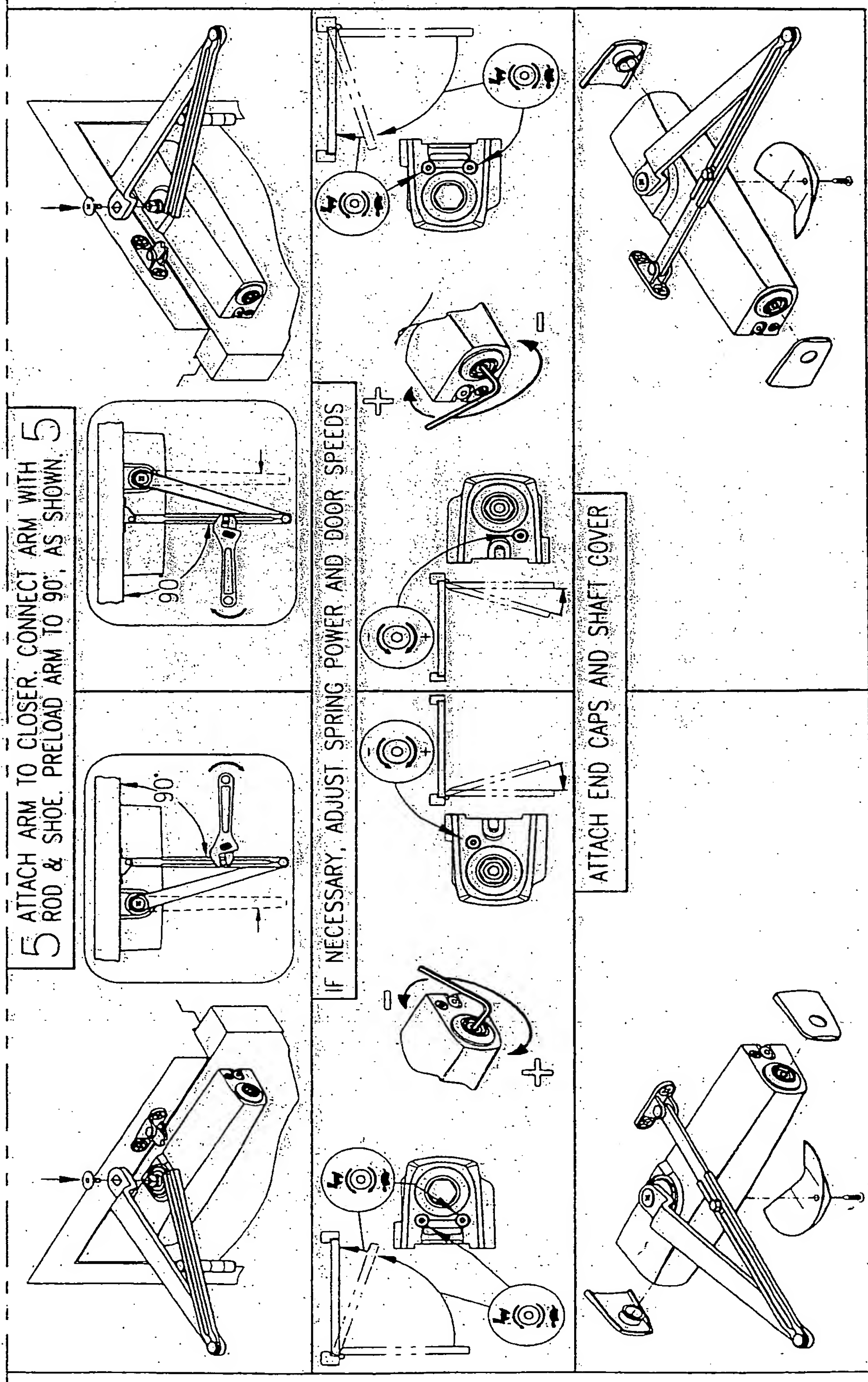


Fig. 12 Continued

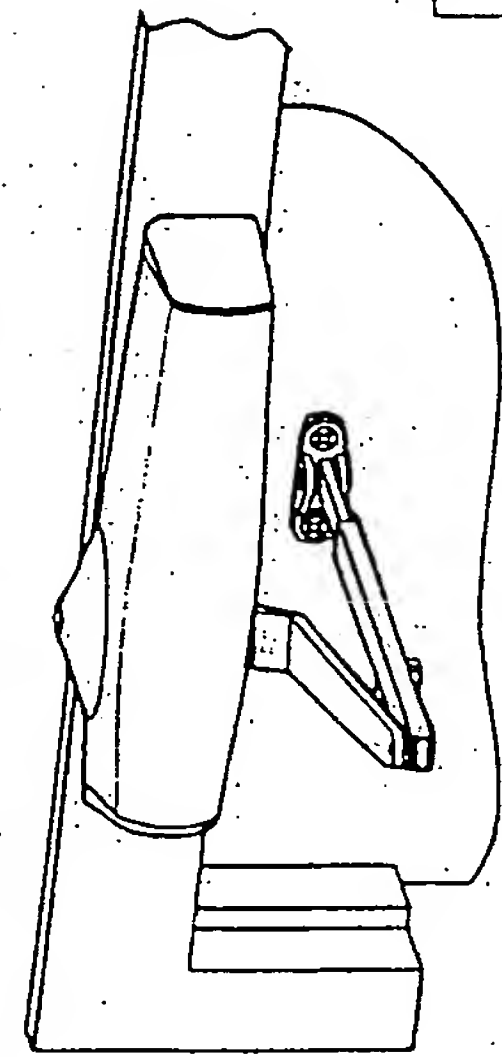
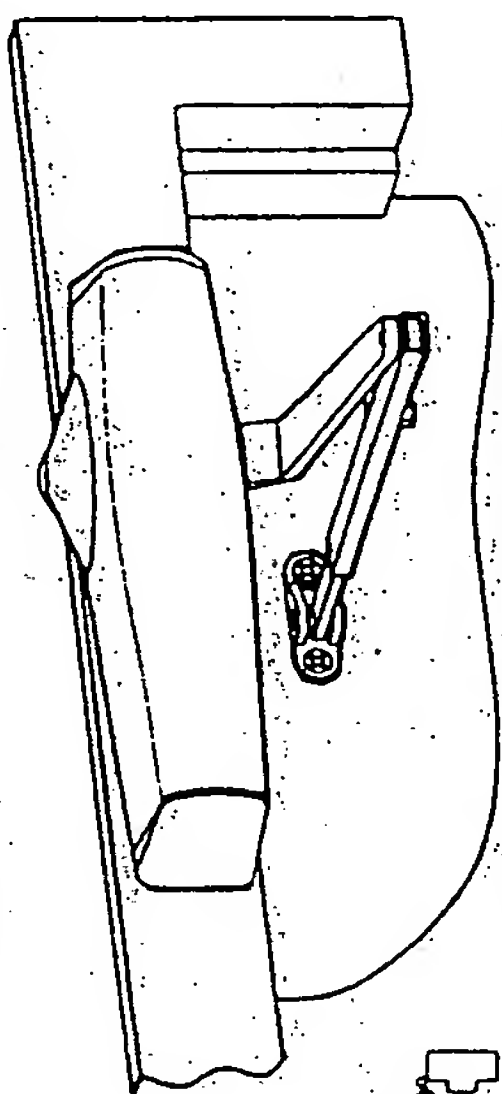


Fi 13

INGERSOLL-RAND
ARCHITECTURAL HARDWARE
LCN

PUSH SIDE
JAMB MOUNTED

SELECT THE PICTURE THAT MATCHES YOUR INSTALLATION AND FOLLOW DIRECTIONS ON THAT SIDE OF PAGE.



1 LOCATE PUSH SIDE TEMPLATE 1
1 & SEPARATE ON DOTTED LINE.



**PUSH
SIDE**

2 PEEL OFF TEMPLATE AND ALIGN WITH HINGE EDGE
OF DOOR & FRAME. CENTER PUNCH HOLES.

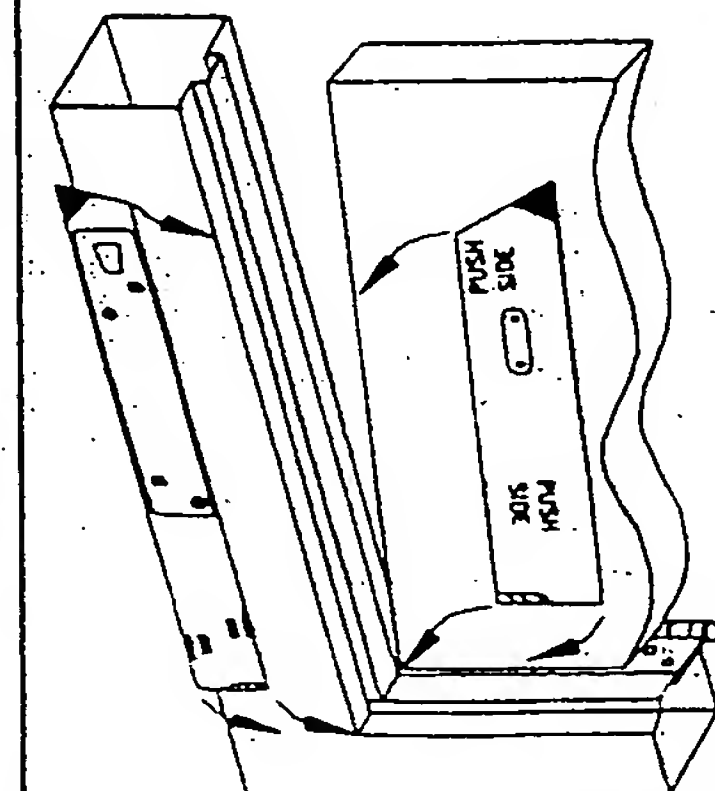
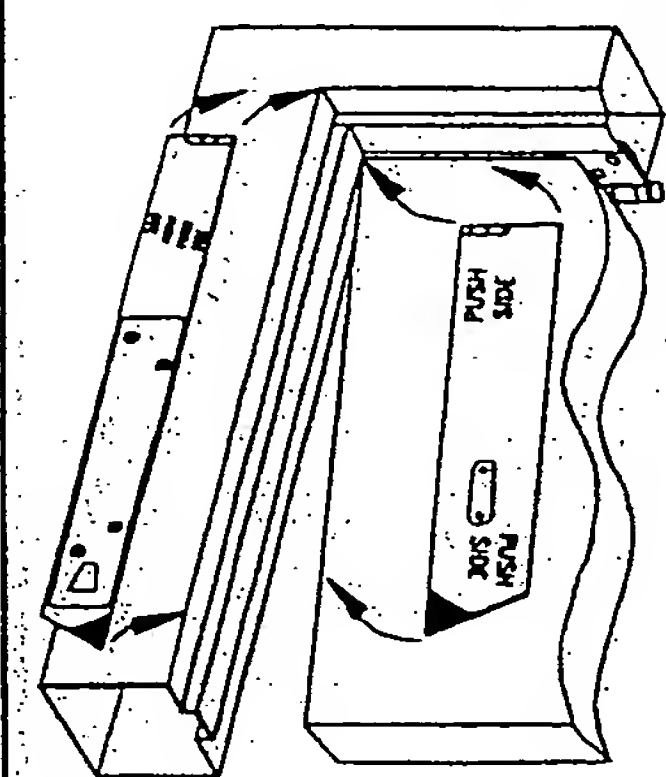
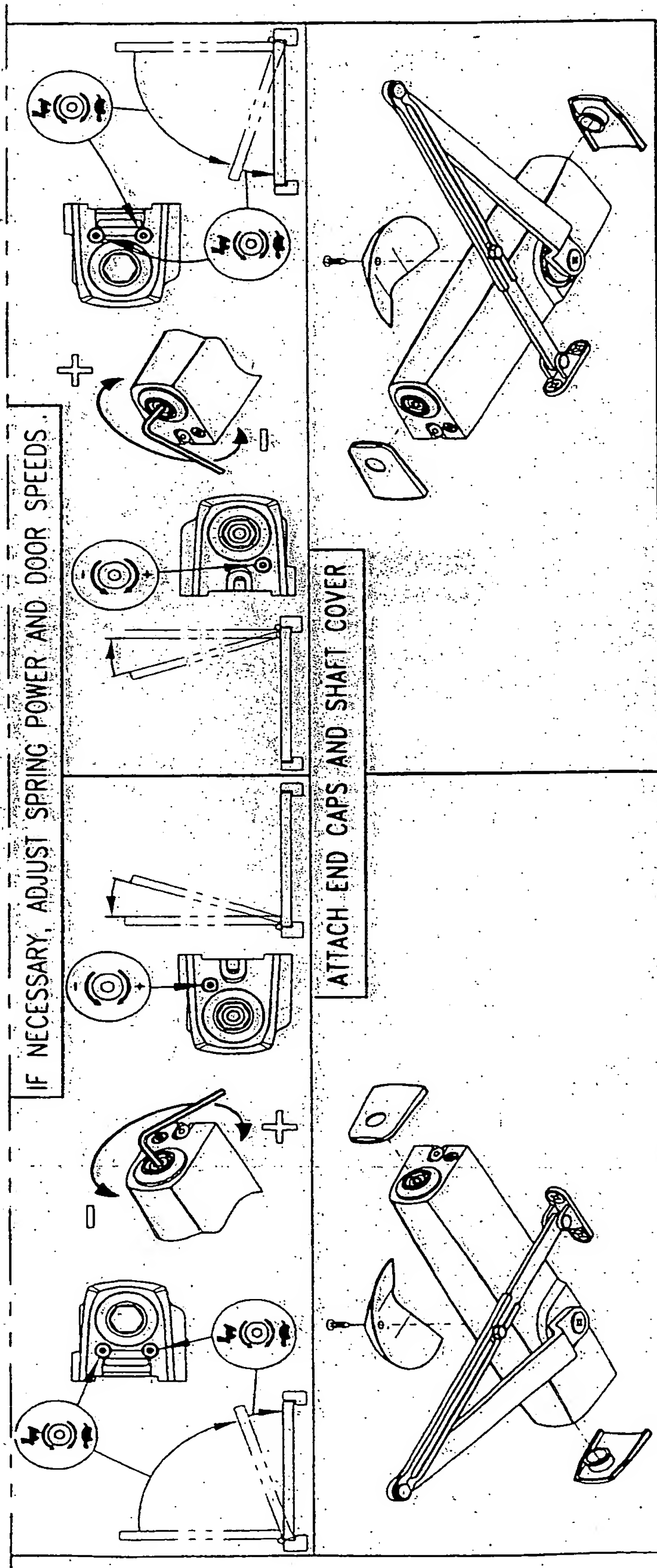


Fig. 13 Continued



INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IB 00/00126

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E05F3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E05F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 20 54 388 A (FERMAT) 10 May 1972 (1972-05-10) page 4, last paragraph, figures	1
A	DE 23 08 243 A (DORMA BAUBESCHLAG) 22 August 1974 (1974-08-22) page 3, last paragraph - page 4, line 3; figures	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

* & * document member of the same patent family

Date of the actual completion of the international search

3 May 2000

Date of mailing of the international search report

12/05/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Van Kessel, J

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No.

PCT/IB 00/00126

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 2054388	A	10-05-1972	NONE	
DE 2308243	A	22-08-1974	NONE	